

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: NFR Bear Paw Basin, LLC.
Well Name/Number: Willow Creek 34-1-36-15B
Location: NE NE Section 34 T36N R15E
County: Hill, MT; **Field (or Wildcat)** W/C

Air Quality

(possible concerns)

Long drilling time: No, 3 to 4 days drilling time.

Unusually deep drilling (high horsepower rig): No, single derrick drilling rig to drill to 2700' TD.

Possible H2S gas production: None expected, objective formations are typically sweet gas producers in this area.

In/near Class I air quality area: No, Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: No special concerns – using small rig to drill to 2700' TD.

Water Quality

(possible concerns)

Salt/oil based mud: No, freshwater and freshwater mud system.

High water table: No high water table expected.

Surface drainage leads to live water: No, closest drainage is Mud Lake dry lake bed, about 3/8 of a mile to the north of this location.

Water well contamination: No, closest water wells are 1 mile or further to the northeast from this location.

Porous/permeable soils: No, silty sandy bentonitic soils

Class I stream drainage: No, Class I stream drainages in the area of review.

Mitigation:

☐ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: 200' of surface casing cemented to surface adequate to protect freshwater zones. Production casing if run will be cemented to surface. Also, fresh water mud systems to be used to drill surface hole and main hole.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None to be crossed.

High erosion potential: No, small cut, up to 2.0' and small fill, up to 8.0', required.
Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, 250'X250' location size required.
Damage to improvements: Slight, surface use cultivated fields.
Conflict with existing land use/values: Slight.

Mitigation

☐ Avoid improvements (topographic tolerance)
☐ Exception location requested
☒ Stockpile topsoil
☐ Stream Crossing Permit (other agency review)
☒ Reclaim unused part of wellsite if productive
☐ Special construction methods to enhance reclamation
☒ Other: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be along existing county road, Willow Creek Road. About 1.25 miles of new access road will be built into this location. Drilling fluids will be hauled to a nearby stock pond for sealant with surface owner approval. Cuttings will be left to dry in the earthen pits. Pits will be closed when dry. No special concerns

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No residences within 1 mile of this location in any direction.

Possibility of H₂S: None expected.

Size of rig/length of drilling time: Small drilling rig/short 3 to 4 days drilling time.

Mitigation:

☒ Proper BOP equipment
☐ Topographic sound barriers
☐ H₂S contingency and/or evacuation plan
☐ Special equipment/procedures requirements
☐ Other: _____

Comments: Sufficient surface casing and operational BOP should mitigate any problems. No concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Threatened or endanger species listed is the Black footed Ferret. Proposed specie is the Greater Sage Grouse.

Mitigation:

☐ Avoidance (topographic tolerance/exception)
☐ Other agency review (DFWP, federal agencies, DSL)
☐ Screening/fencing of pits, drillsite
☒ Other: Surface use is a cultivated field.

Comments: Private cultivated surface lands. No concerns.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified.

Mitigation

 avoidance (topographic tolerance, location exception)

 other agency review (SHPO, DSL, federal agencies)

 Other: _____

Comments: On private cultivated surface land. No concerns.

Social/Economic

(possible concerns)

 Substantial effect on tax base

 Create demand for new governmental services

 Population increase or relocation

Comments: On private land. No Concerns.

Remarks or Special Concerns for this site

Well is a 2700' Second White Specks Formation test

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): Steven Sasaki

(title:) Chief Field Inspector

Date: September 20, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Hill County water wells

(subject discussed)

September 20, 2010

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Hill County
(subject discussed)

September 20, 2010
(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____